



8th May 2019 – Napoli WTC2019

ITAym

The next generation of tunnellers

Today's Agenda

- Steering Committee Report
- Member Nations Report
 - Mexico & India
- What next for ITAym? [Workshop]
- Candidates and elections (10:30AM)
- ExCo Attendance (11AM)
- WTC2020



How the ITA-AITES is Structured



How does ITAym fit into the ITA Faimily?

Steering Committee Report

Keith Bannerman

Jasmin Amberg

Chrysothemis Paraskevopoulou

Giuseppe Gaspari

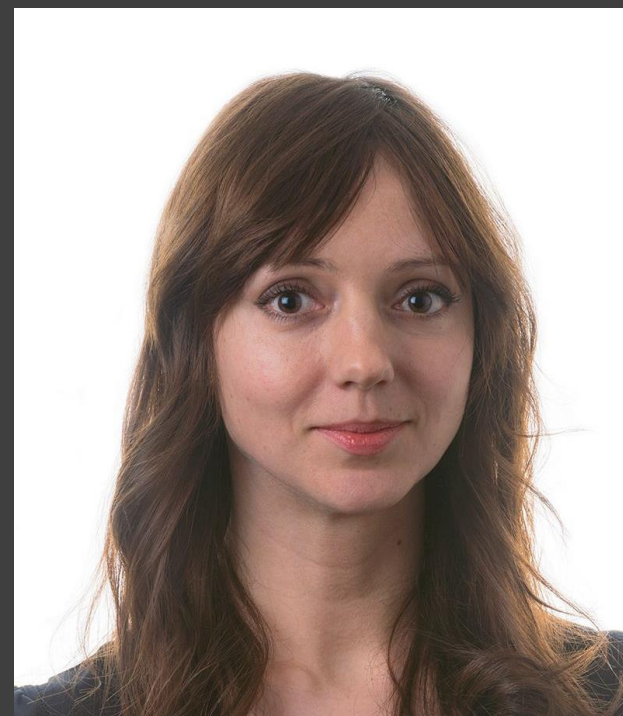
Jekaterina Jonsson

Nicolas Ziv



2018/19 Committee

Keith, Jasmin, Sindre,
Chrysothemis, Nicolas,
Jekaterina, Giuseppe





ITaym Goals

TO BE THE LEADING GLOBAL TECHNICAL NETWORK FOR YOUNG PROFESSIONAL ENGINEERS AND STUDENTS IN THE TUNNELING & UNDERGROUND INDUSTRY.



- **Encourage** collaboration across borders and across languages
- **Develop** an active connected global network of young tunnellers
- **Grow** the ITaym participants to be the future of the ITA
- **Further** the integration of ITaym within ITA WGs and committees

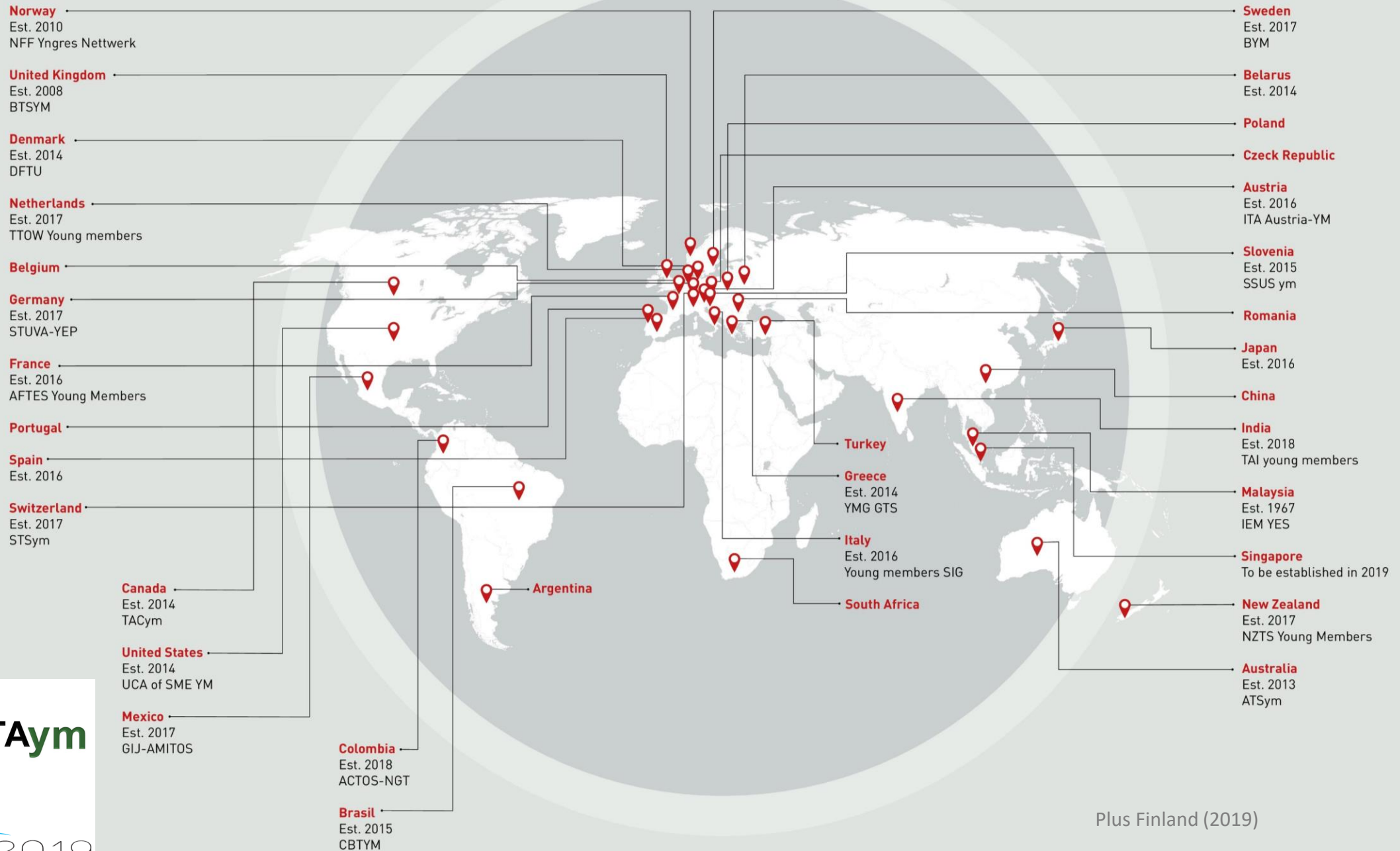
Breakthrough 2019 Edition



- Feature articles (Austria, Columbia, Mexico)
- ITAym World Map
- 5 from 5 (China, India, USA, Netherlands, Switzerland)
- ITA Awards
- A week in my life (Greece)
- Committee Interview (ITACUS)

We are always looking for quality content so please make sure to keep in touch if you have any items to share

The Young Members World Map



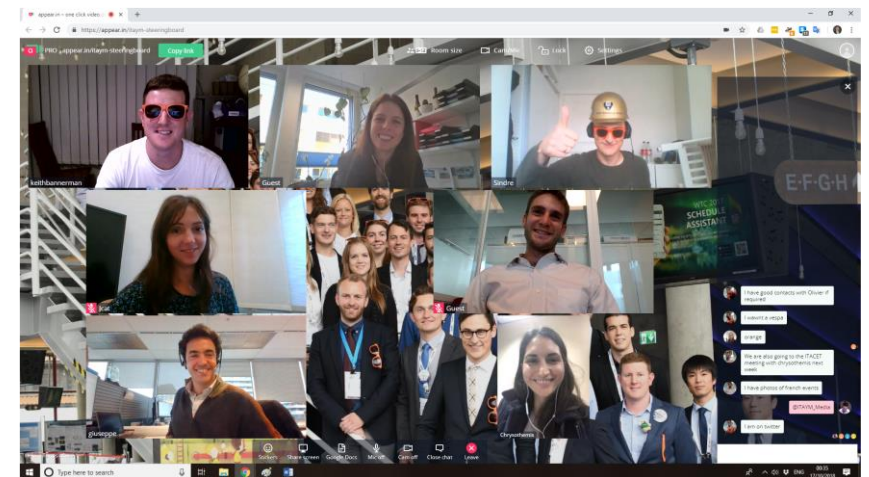
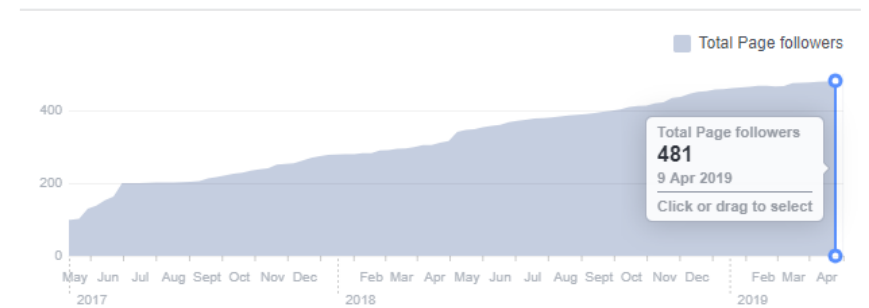
ITA Awards – Young Engineer of the Year

- 2018 edition had an outstanding cohort including designers, contractors, clients and academics
- 2019 awards to be held in Miami, USA
- Entries close 15th June 2019



Improving process

- Communication via Slack & WhatsApp
- Establishment of Newsletter
- Video conference via Zoom – meetings every 6 weeks (9 per year plus 1 at WTC)
- Utilise Sli.do
- Continued increase presence on facebook, LinkedIn, Twitter etc.
- How else can we assist in communicating?





ITA-CET Intergration

Member Nation Reports

- **Mexico**
- **India**





AMITOS

Mexican Association for Tunnelling
and Underground Works

Young Members Group

Miguel Ángel Mánica Malcom

AMITOS - Young Members Group



- In **October 2017**, the **Young Members Group** in Mexico was formed as an initiative of the Mexican Association for Tunnelling and Underground Works (AMITOS)
- Founding leaders : Carlos Ramirez de Arellano
Wendy Romero
- Today: **150** members ➡
 - **108** undergraduate and graduate students
 - **42** members in the tunnelling industry

Total AMITOS members = **317**

47% Young Members

boosting our national association!

AMITOS - Young Members Group



- Our young members in the tunnelling industry



Line 12 extension project
Mexico City Metro



Eastern Emission Tunnel TEO (62 km)
Mexico City Metro

AMITOS - Young Members Group



- Tunnelling-specific program in Mexico
 - **Master degree in Tunnels and Underground Works** - National Autonomous University of Mexico UNAM

- Since 2013

- Supported by

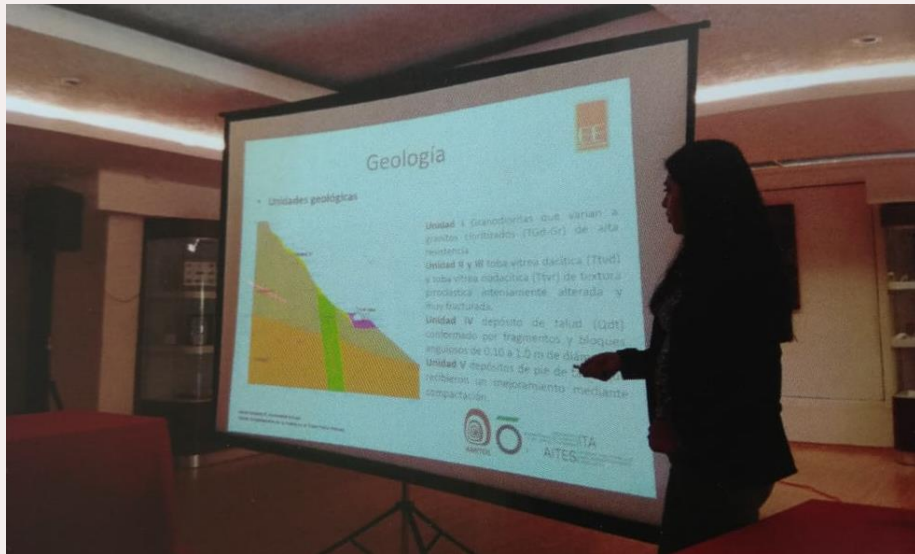


- Certified in 2018 by ITACET

AMITOS - Young Members Group



➤ First YMG meeting – March 2018



Once a year?

YES

■ Objectives:

- Presentation of the members' current work
- Feedback and transfer of knowledge
- Generate professional and friendship relationships between participants
- Discuss future activities of the group

➤ The future

- June 2019 – Establishment of the first steering committee of the AMITOS Young Members Group
- Activities to develop
 - Creation of the website (inside AMITOS website)
 - Boost dissemination through social media
 - Organization of face-to-face and online courses and seminars
 - Organization of the next annual meeting of the YMG – Mexico
 - Boost cooperation with YMG of other countries



INTERNATIONAL TUNNELLING
ASSOCIATION YOUNG MEMEBRS

TAIym

ITAym

TUNNELLING ASSOCIATION OF
INDIA YOUNG MEMBERS



TAIym – journey so far and beyond

Sandeep Singh Nirmal
Chair, TAIym





Contents



- About TAIym
- Purpose
- Journey so far
- Organization Structure
- Annual activities
- What is expected in future from young member group





About TAlym



- TAlym in child group of TAI.
- Platform for young professionals (engineers, consultants, clients, architects, manufacturers, vendors ...) of upto 35 years of age working in tunnelling and underground space industry.
- Working in close co-ordination with ITA and ITAym.
- Young members making an international presence.



Purpose



- Explore and motivate young tunnelling professionals.
- opportunities to interchange/ share ideas and information.
- a space for experienced members of TAI to interact with TAIym members and mentor them with best practices.
- Collaboration with national as well as global industry and academic partners.
- Develop management and leadership skills by organizing the events with assistance of TAI.
- Promotion to write papers in national/international journals.
- promoting and recognising innovations in tunnelling.
- Pan India by using technology to bring everyone together e.g. webcast.



Journey so far



Beginning of idea
August, 2017

Discussion
with TAI
May, 2018

Creating
foundation
June- August,
2018

Growing in
numbers
September-
November, 2018

Official Launch
December, 2018

Making noises
January - February,
2019

First event
March - April,
2019

- First time the idea to set up ITAym came to existence in August 2017.
- The idea took shape when the same was discussed with TAI.



Journey so far



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- The kick-off discussion was held between Mr. V. K. Kanjlia, Mr. Sunil Sharma from CBIP and Mr. Chandan Vaidya from Bekaert Maccaferri Underground Solutions and Sandeep Singh Nirmal at Concrete Show India organised at Mumbai.
- Creating group – 18 unofficial members by end of month.

18



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- 25 members by August 2018
- Discussion with Prof. J.T. Sahu to collaborate with IIT Delhi to include students as young members in TAIym.
- Article about TAIym published in TAI Journal, July 2018.
- Writing Mission, vision and objective statement.
- Creating organisation structure.
- Contributions-

25

Sandeep Singh Nirmal	ITES	Ankur Chauhan	GeoConsult
Parvathy	PEMS	Toshik	COWI
Maheshwara	Systra	Sumit Wagh	L&T
Jerrin	Lombardi	Niraj	L&T
Harvinder Rana	AECOM	Anil Patel	DMRC

**Tunnelling Association of India Young Members Group
not a Distant Dream**

YOUNG MEMBERS GROUP

The ITA (International Tunnelling Association) Young Members Group was formed at the World Tunnelling Congress in Brazil, May 2014, having been proposed by the many Member Nations Young Member Groups. In line with ITAYM, the Tunnelling Association of India Young Members (TAIym) is being launched with the following aims and objects:

- provide a technical networking platform within TAI for young professionals and students
- bridge the gap between generations and to network across all experience levels in the industry
- raise awareness of the tunnelling and underground space industry to new generations
- provide young professionals and students with a voice in the TAI and ITA, including the Working Groups
- look after the next generation of tunnelling professionals and to pass on the aims and ideals of the TAI and ITA

The TAIym group is open to all young tunnelling professionals under the age of 35 from various parts of country to be a part of the organisation. TAIym will conduct technical as well as social events to increase networking among young engineers involved with underground projects besides it will also organise joint event with schools and universities to motivate students to get involved in underground construction and aim to improve the quality of engineers joining the underground projects in future. TAIym will also encourage the innovative engineering approach among young engineers and promote these innovations at nation and international levels. Moreover, TAIym will provide young engineers to interact with experienced engineers and learn from their practical experiences. The young members group will use modern day digital tools to bring everyone closer. For example, all the presentations/ events will be streamed online to all members. It is planned to conduct regular conferences/lectures on updated software and modern construction methodologies by experienced engineers and young engineers as well.

A group of young engineers from various companies active in India are closely working with TAI on the process of setting up TAIYM and collaborating to expedite the process and launch the young members group to provide all possible opportunities and skills to young engineers to bring the Indian tunnelling industry at par with global standards.



Journey so far



- 50 unofficial members.
- International assistance from Mr. Senthil Nath (GeoConsult, Singapore) to setup the basic structure of the group.
- Preparation and planning of annual activities of TAIym.
- Plan to launch TAIym with support from TAI.
- Team of motivated professionals formed to organise future TAIym activities-

50



Sandeep
Singh Nirmal



Akshay Mitra
Panwar



Akshay Gupta



Sweta Nemani



Arpit Bothra



Ankur Chauhan



Parvathy G
Panicker



Senthil
Nath



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- TAIym was officially launched by President, TAI, Dr. Mangu Singh, MD, DMRC on 21st December 2018.
- Discussions on framing of constitution of TAIym among TAI and TAIym (ongoing)





Journey so far



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- Registration of official members of TAIym – 40 nos. by February 2019.
- Creation of social media groups (LinkedIn, Facebook, YouTube).
- Collaboration with ITAym and recognition of efforts by ITAym through social media posts.
- Display of stall of TAIym in Tunnel Asia Conference 2019 held in Mumbai.

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Journey so far



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- 84 registered members and growing
- Article about TAIym is published in Breakthrough 2019 edition.
- First event held at CBIP, New Delhi on 25 April 2019 with 80 young members attending the event

84





Organisation structure



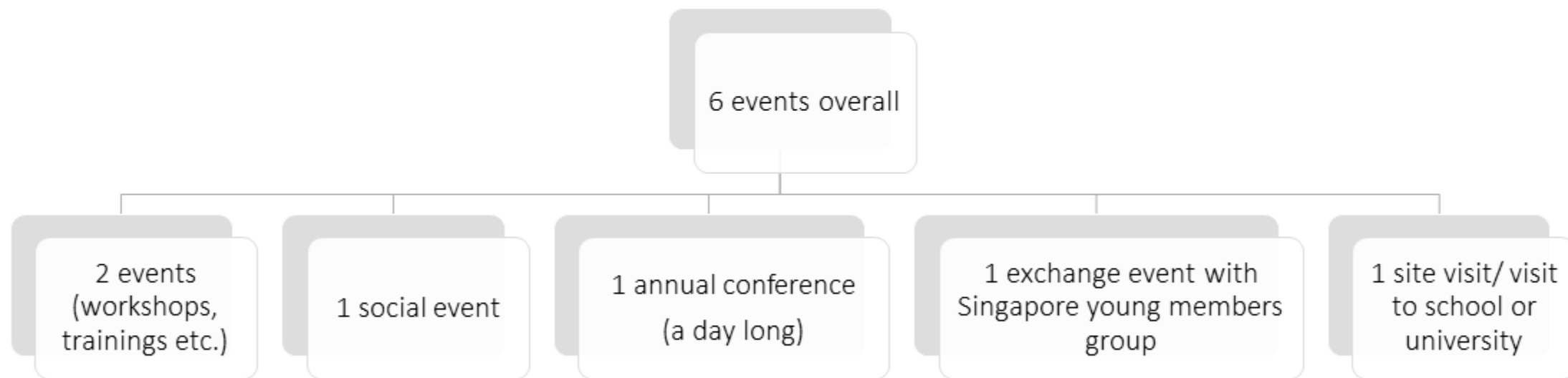
- Chair
 - Sandeep Singh Nirmal. RITES Ltd.
- Vice- chair
 - Akshay Mitra Panwar, GeoConsult
- Secretary of professional development
 - Parvathy G Panicker, PEMS
- Secretary of Media
 - Sweta Nemani, Lombardi
- Secretary of co-ordination
 - Akshay Gupta, GeoConsult
- Secretary of resource management
 - Arpit Bothra, GeoConsult



Annual activities



Total 6 activities in a year (an activity every 2 months)





What is expected in future



- Creating a database of experiences of tunnelling professionals on TAIym blog and YouTube channel (already active).
- Webcasting and recording all events for sharing across India.
- Representation of Indian young professionals in ITAym committee.
- Collaborations with schools, universities, industrial partners etc.
- Planning to organise Think Deep Initiative in India in 2020.
- Encouraging young professionals to write and publish papers on their work.



Thank you

Happy Tunnelling..!!





GO
UNDER
ground
ITAym

WTC 2019 - Naples
Candidates for ITAym Steering Board
Period 2019-2021

ITAym Candidates



Sandeep Singh Nirmal
India



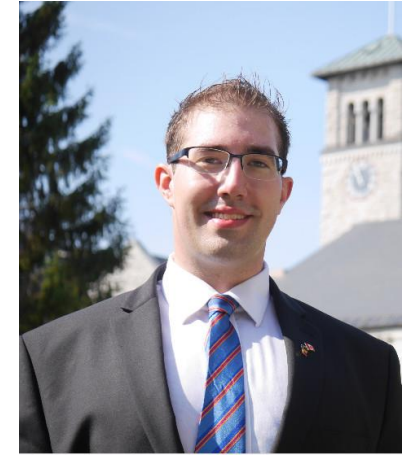
Max Barbosa
Brazil



Dr. Daniele Martinelli
Italy



Alena Conrads
Germany



Timothy Packulak
Canada

Remarks:

- *Additional Nominations at ITAym General Assembly are possible.*
- *All Candidates will present themselves shortly at the ITAym General Assembly.*

Sandeep Singh Nirmal, India



- Age: 29
- Working at RITES Ltd. - Assistant Manager (Tunnel), design consultant
- Masters in Tunnelling and Underground Space, University of Warwick
- Active Member of British Tunnelling Society (BTS) and Tunnelling Association of India (TAI)
- Co-founder and chair of TAIym in 2018
- Young Tunneller of the Year 2019 award by TAI
- Contestant of Harding Prize 2019 (UK) – ended up as runner up this year
- Technical Papers published in Tunnel Asia Conference 2019 and WTC 2019 and Presentations of his work on design of segmental lining on several conferences

"I am an active member of British Tunnelling Society and Tunnelling Association of India. Active participation in both the societies have kept me motivated to work for development of tunnelling industry."

"There is immense potential in tunnelling and young members have huge responsibilities to deliver with this potential. ITAym may look forward to provide more opportunities to young member groups of member nations to collaboration using regular technical webinars, planning Deep Think Initiatives, motivating member nations to form young members group and motivating young professionals to write technical papers for national and international conferences. I am working towards Think Deep Initiative to be organised in India in near future and am confident that the same will be a reality soon.

Additionally, members groups may look forward to organise exchange annual programs where young members groups may plan collaborative events annually to strengthen collaboration between them. A similar model is under discussion between TAIym and young tunnel professionals from Singapore where an annual event will be held alternatively in each country to share ideas and collaboration for development of tunnelling industry."

Max Barbosa, Brazil



- Age: 26
- Working at University of Brasília / Solotrat – Graduate Student / Partner (VP of Research and Development)
- Graduate student of Geotechnical Engineering, Civil Engineering degree with summa cum laude, University of Brasília
- Partner at Solotrat, a geotechnical speciality contractor.
- Experience as field engineer, designer and consultant of geotechnical works.
- Intern in 2 SEM tunnel works and supervision and design of geotechnical works in major companies in Brazil.

"Because of my background, I see the future of tunneling and geotechnical engineering as a design-build reality, with strong synergy between academy and industry."

"As a volunteer to the ITAYM Steering Board I will contribute not only with my insights in academy and industry but also with my experience from working as a volunteer at University of Brasília Alumni (currently serving as President) and Brasília Toastmasters (currently serving as Director of Logistics). I strongly believe in the role of ITA-AITES and ITAYM for the future of tunneling, as I could see in WTC 2016, WTC 2017 and WTC 2018. Being part of the ITAYM Steering Board will certainly be a win-win to both the Board and for me."

Daniele Martinelli, Italy



- Age: 33
- Working at Politecnico di Torino – Assistant Professor of Tunnelling and Excavation Engineering
- Master in Environmental Engineering, Politecnico di Torino & Aalto University of Science and Technology and TKK Helsinki (Erasmus 1 year)
- PhD Degree in Environment and Territory, Politecnico di Torino
- Publication of several papers and proceedings for conferences including WTC 2019
- Deputy Coordinator of Post-Graduate Master in Tunnelling and Tunnel Boring Machines at Politecnico di Torino
→ possibility of keeping contacts with tunnel engineers after the graduation, creating an effective network and by involving those young tunnelers also in the future for seminars on their new activities

"My main motivations for this candidacy are linked to my deep interest on tunnelling, both with industrial and academic implications."

"I have been involved in this field since my graduation in 2010, first as an engineer in a Finnish design company and then in the university as PhD student first and Assistant Professor now. With this academic position I can contribute to the formation of the future engineers of this field, especially by teaching at the II level Post-Graduate Master in Tunnelling and Tunnel Boring Machines at Politecnico di Torino."

"I have been involved in my national YM group since its starting: this group is really active thanks to a strong group and a great support from our Society SIG and our past Steering Committee Member Giuseppe who actively supported the group also for the organization of our first International YM Congress on Tunnelling 4.0."

Alena Conrads, Germany



- Age: 30
- Working at Wayss & Freytag Ingenieurbau AG – Methods Engineer
- Masters in Civil Engineering, Ruhr -University Bochum, Germany
- 2014-2018: Research Assistant at the Institute of Tunnelling and Construction Management, Ruhr -University Bochum
- Finishing Ph.D. appr. Sep 2019. Topic: "Using Process Simulation for Cutting Tool Maintenance Scheduling in Mechanised Tunnelling"
- Cofounder and chair of the STUVA-YEP
- Several publications on supply chain and maintenance scheduling in mechanised tunnelling using process simulation.

"I would like to contribute in the activities of the ITA-YM steering board to support other YM groups by sharing my experience of founding your own group and organising events for networking purpose and to encourage technical discussions. In particular, I would like to promote the exchange of national groups in the form of interregional events."

"The next years I presumably won't stay in Germany. Therefore, for me it is a good opportunity to switch from only working in our national YM group to the ITA-YM steering board. This way I will not only be able to widen my personal international network but can still actively work for a YM group to support young engineers."

"In 2017, we founded the German YM group (STUVA-YEP), I was an active founding member and since then I have been the coordinator of the group. It was a really great experience to organise and support the events we held the last two years. Experiencing the great feedback we got from the young tunnelling engineers in Germany showed us the worth of our work. It is incredible to see the growth of the network of each participant. There has always been an interesting discussion at our meetings about the technical presentations that were held by young engineers showing the interest of young engineers to widen their knowledge about tunnelling."

Timothy Packulak, Canada



- Age: 26
- Working at Queens University - Research Assistant / Ph.D. Candidate
- Master of Applied Science, Geological Engineering (2018), Queens University
- Doctor of Philosophy Candidate, Geological Engineering at Queens University
- More than four years of geotechnical engineering field experience, in a multitude of areas related to geotechnical site investigations, geological and geophysical mapping, rock and soil identification and testing, slope stability and underground excavation modeling, and on-site supervision/inspection.
- Several publications in the field of Geomechanics.

"Since I started in the field of geomechanics and geological engineering over 5 years ago I have always been excited by the challenges that tunnelling and underground construction has. The average tunnel engineer is never average as they have to sometimes be a structural engineer, a geologist, an instrumentation specialist, a safety officer, a project manager, and much more. This interdisciplinary job is what keeps each project unique and also exciting and the reason I am an advocate for the tunnelling industry."

"As a member of the steering board I can bring my experiences from Canada to help further the mission of the ITAym of being a technical network platform for young professionals and students in the tunnelling and underground space industry."

"Being part of the expansion of the Tunnelling Association of Canada's Young Members Group I can take the lessons learned and help other members start national groups of their own. As an admin of the TACym, social media page I can help advise the ITAym and other member nations on ideas that may work for their social media pages, whether it be through the use of webinars, podcasts, or digital print."

ITA ExCo Tutors



WTC2020 in Malaysia

ITA-AITE 8 World Tunnel Congress 2020 and 48th General Assembly
15th – 21st May 2020
Kuala Lumpur, Malaysia



ITAYm Reception/Dinners

Traders Hotel Sky Bar, Kuala Lumpur

- Date - ITAYm to decide
- ITAYm Guest - ITAYm to decide
- No. of pax – ITAYm to decide
- Menu / Concept – ITAYm to decide



The Young Members Group of the Italian Tunnelling Society

eng. Diego Sebastiani



GEEG
GEOTECHNICAL & ENVIRONMENTAL
ENGINEERING GROUP



SAPIENZA
UNIVERSITÀ DI ROMA



The Italian Tunnelling Society, has established in 2016 the SIG **Young Member Group** (YM)

Coordinators: *Marco Ranieri & Giuseppe Maria Gaspari*

Mission

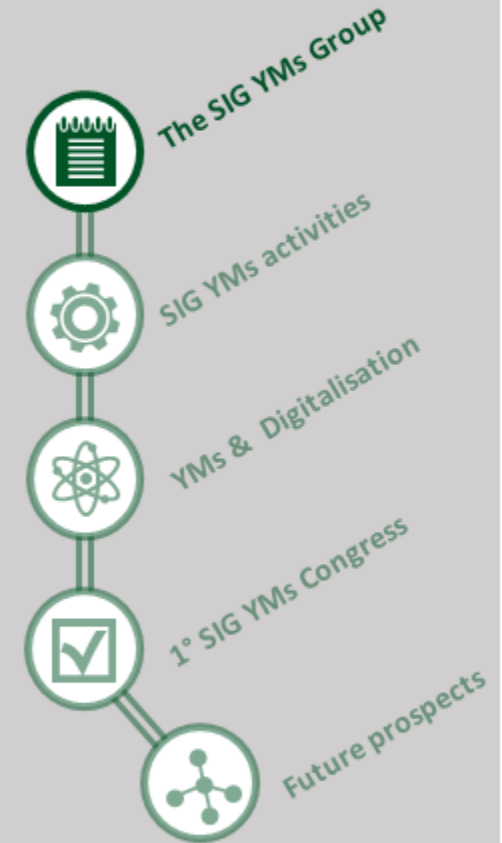
the YM Group will proactively **support SIG activities** and will **connect young professionals** from both University and Industry

It also aims to **establish a fruitful collaboration with the others ITA's Member Nations YM Groups**



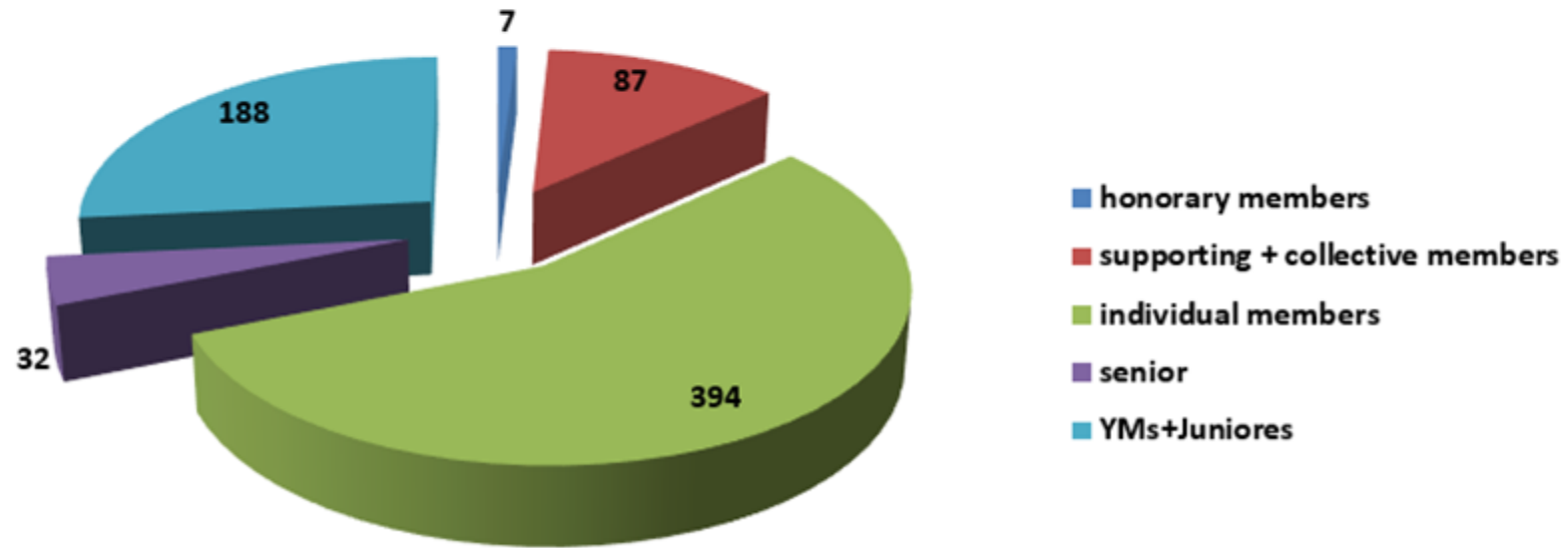
Bologna 2016 – foundation of the SIG Yms Group

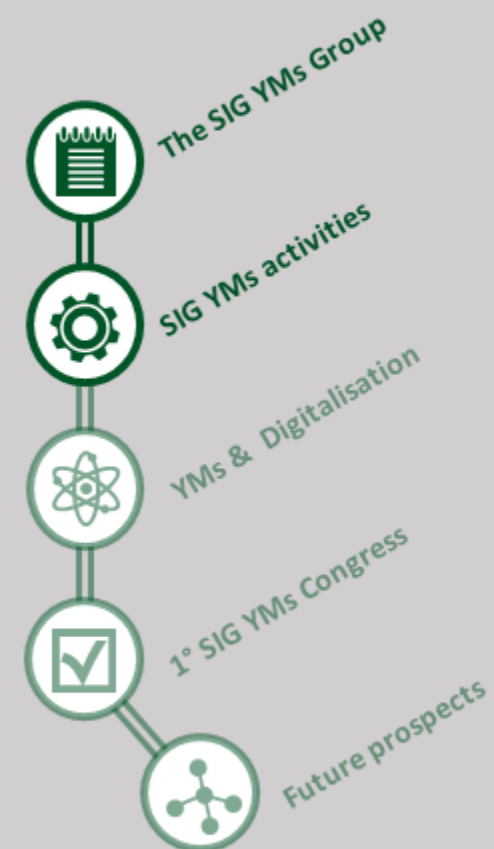




- ✓ to create an operational structure for the group
- ✓ to increase the number of young tunnellers involved
- ✓ to create stable connections with other YMs ITA groups

Composition and typology of Società Italiana Gallerie at 31/10/2018





✓ support SIG in the Working Groups

WG 2	Research
WG 3	Contractual practices
WG 5	Health and safety in works
WG 6	Maintenance and repair
WG 9	Seismic effects
WG 11	Immersed and floating tunnels
WG 12	Sprayed concrete use
WG 14	Mechanisation of excavation

WG 15	Underground and environment
WG 17	Long tunnels at great depth
WG 19	Conventional tunnelling
WG 20	Urban problems underground solutions
WG 21	Life cycle asset management
POS	Progettazione delle opera in sotterraneo
TRS	Terre e rocce da scavo
BIM	Building Information Modeling



- ✓ support the Editorial Board of the SIG Journal

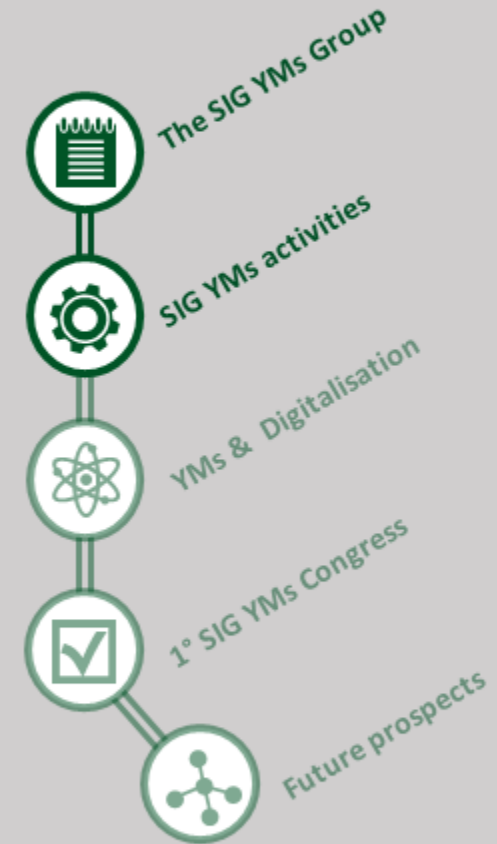
“Tunnels and Major Underground Works”



Since 1976, the periodical “**Tunnels and Major Underground Works**” is SIG’s pride and glory. It is currently published once every three months and it reached issue 127 in November 2018.

The periodical presents technical and scientific articles, as well as Editor's opinion, news about construction works and tenders around the world, bulletin from the Italian tunnelling market, reports on technical visits, scheduled training courses and international congress.



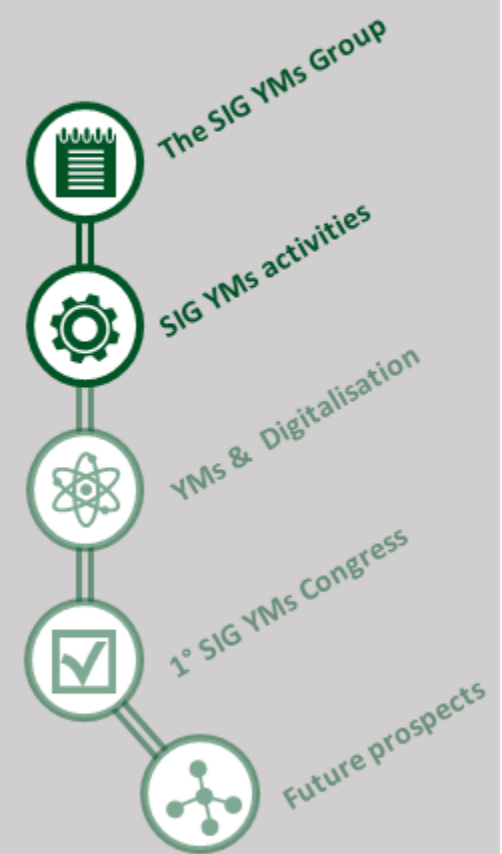


✓ support for other SIG Publications

The Italian Art of Tunnelling – Handbook on underground projects involving companies and on going major projects in Italy and abroad

SIG Conferences Proceedings (publication of all the papers presented during the Association's Conferences)



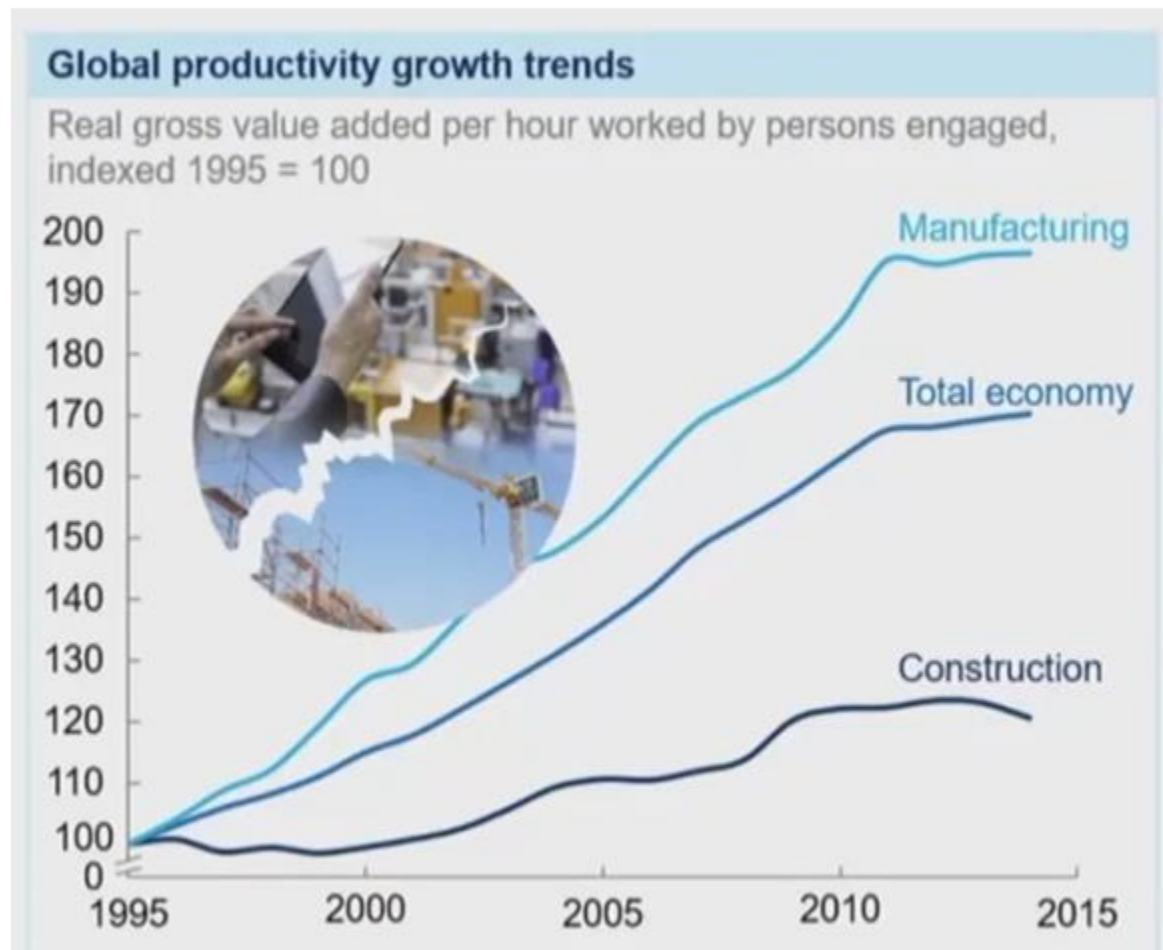


✓ support SIG events

- *technical visits*
- *Workshop*
- *Congress*



the challenges we will face in the future





the challenges we will face in the future ... our contribution in different areas



innovation in methods and materials



new technologies



Digitalisation





1st Young Members Conference:

Tunnelling 4.0 – Innovation and new technologies in underground Design & Construction

INTERNATIONAL TUNNELLING
AND UNDERGROUND SPACE
ASSOCIATION

ITA

AITES

ASSOCIATION INTERNATIONALE
DES TUNNELS ET DE L'ESPACE
SOUTERRAIN





1st Young Members Conference:

Tunnelling 4.0 – Innovation and new technologies in underground Design & Construction

BIM

Building Information Modelling (BIM) applied to tunnelling and underground space

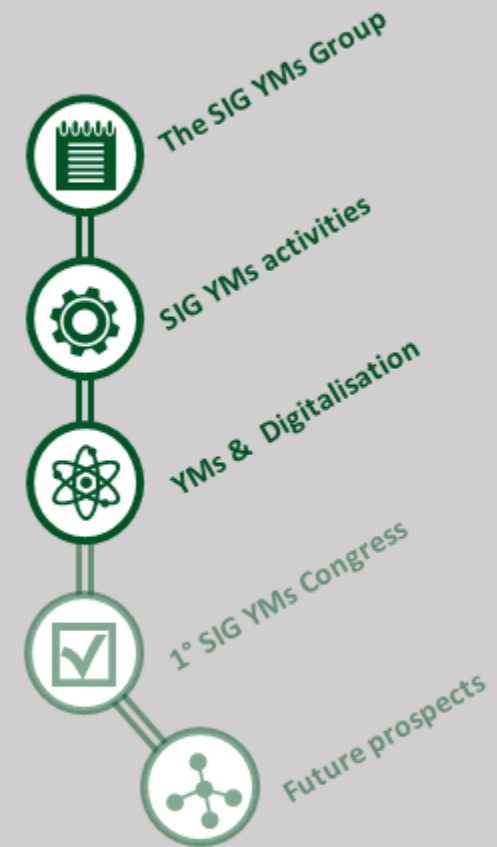


Radar interferometry, drones and other monitoring and data recording/processing technologies



Automation in building technologies and innovative materials





1st Young Members Conference:

Tunnelling 4.0 – Innovation and new technologies in underground Design & Construction



government representatives, Contractors, Customers and infrastructure managers



Universities and other research bodies



Designers, Project Managers, Consultants

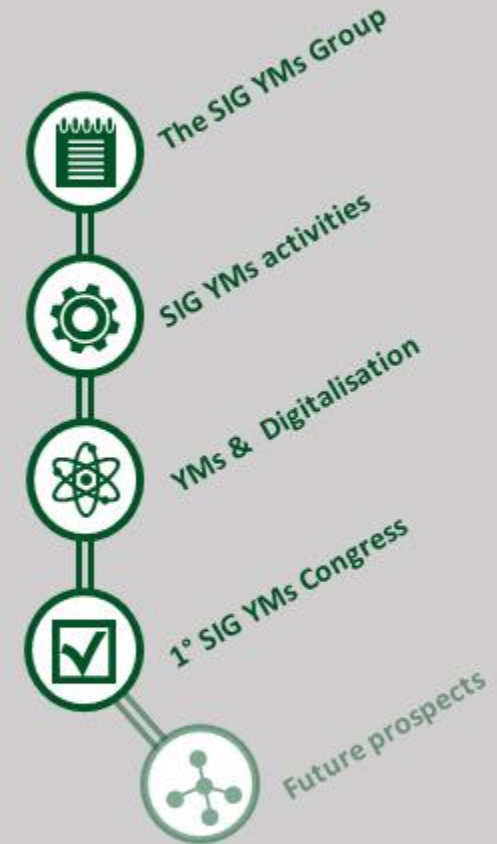


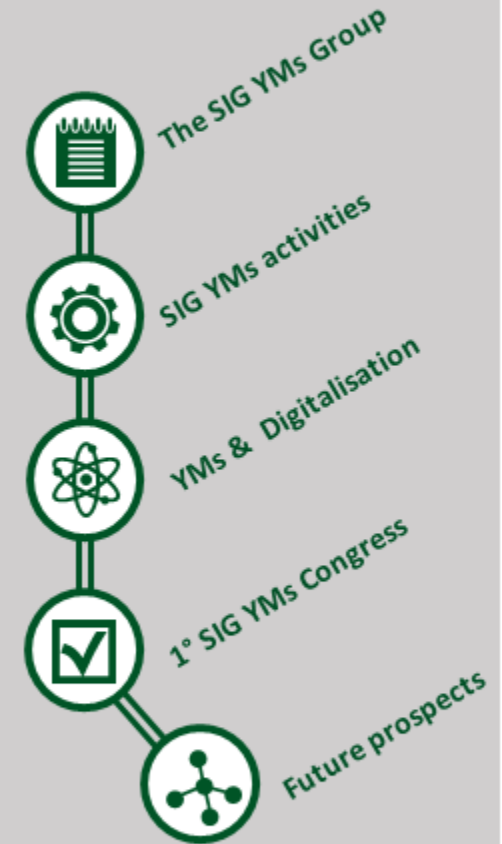
engineering Companies and Industrial bodies



1st Young Members Conference:

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✓ SIG Yms group communication

- *mailing list*
- *website*
- *Social*

